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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/741,045	12/21/2000	Sung-Kon Kim	3430-0154P	5517

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EXAMINER

DUONG, THOI V

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 11/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/741,045

Applicant(s)

KIM, SUNG-KON

Examiner

Thoi V Duong

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 September 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This office action is in response to the Amendment, Paper No. 6, filed September 09, 2002.

Accordingly, claims 1-4 were amended, and new claims 5-10 were added.

Currently, claims 1-10 are pending in this application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mashino et al. (USPN 5,886, 759) in view of Taniguchi et al. (USPN 6,099,134).

As shown in Figs. 1A and 4, Mashino discloses a liquid crystal display (LCD) device comprising a liquid crystal display 62 and a back light device which includes at least one lamp 36; a light guide plate 37 for guiding light emitting from the lamp; a diffusing sheet 39 for diffusing light emitting from the light guide plate; prism sheets 68 and 69 located on the diffusing sheet, concentrating light; a reflector 38 located under the light guide plate, reflecting light directing downward the light guide plate,

wherein an edge portion of the diffusing sheet adjacent to the lamp includes a printing portion 1 shown in Fig. 4 for absorbing light reflected from a bottom of the display device, thereby a bright line is prevented (col. 6, lines 25-40);

wherein the reflector includes a printing portion 1 shown in Figs. 1A and 1B for absorbing light reflected from a bottom surface of the backlight light device, thereby a bright line is prevented (col. 5, lines 5- 15); and

wherein the light guide plate has a plurality of patterns which are light diffusion dots 67 printed with white ink on the underside of the light guide 37 for transmitting light introduced into the light guide (col. 4. lines 34-37).

Fig. 7 shows a LCD device comprising a liquid crystal layer 50 interposed between two substrates 6 and 12, an upper polarizer 15, and a lower polarizer 16 which may be considered as a protecting sheet located on the prism sheets. And Fig. 13 shows a back light device comprising a light guide 37 having two lamps 36 at both ends, a reflectice sheet 38 at the bottom and a diffusing sheet at the top. Accordingly, Mashino discloses a LCD device having a backlight device that is basically the same as that recited in claims 1-10 except that the printing portion is made of mixing colors instead of colorless ink containing a light scattering agent. Taniguchi discloses a LCD device comprising a liquid crystal cell array and a back light device including a light guide plate and an optical member which is disposed on the top or bottom surface of the light guide plate and provided with convex-shaped or concave-shaped dots capable of scattering light rays so that luminance of the back light device is uniform (col. 3, lines 1-9). Figs. 28A to 28C show the back light device 12 and the optical member 11 with plurality of small convex dots 16. Taniguchi also discloses that transparent plastic materials can generally be employed for forming the dots (col. 23, lines 55-67) and, as shown in Figs. 33 Prior Art and 34, the dot disposition can be provided in integral

combination with a light scattering layer 3, a reflecting sheet 4, a diffusing sheet 5, a prism sheet 6 or 7 (col. 24, lines 13-23), a polarizer 23 or 27, or a field angle enlarging sheet 28 (col. 24, lines 30-34). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the back light device of Mashino with the teaching of Taniguchi by forming a printing portion made of colorless ink containing a light scattering agent on at least one of an edge portion of the diffusing sheet adjacent to the lamp, an edge portion of the protecting sheet adjacent to the lamp, or the reflector so as to prevent a bright line and obtain a uniform luminance distribution for the display.

Response to Arguments

4. Applicant's arguments filed September 09, 2002 have been fully considered but they are not persuasive.

Applicant argued that although Figs. 1-5 of Mashino show a back light system for a liquid crystal display that can be compared to the invention shown in Figs. 5-7 of the application, Mashino fails to disclose or suggest "a printing portion made of colorless ink containing a light scattering agent", and that the dots of Taniguchi are formed to make light uniform and the technology of Taniguchi is not directed at light scattering but is rather directed at using the dots for reflection or refraction. The Examiner disagrees with the Applicant's remarks because Mashino discloses a printing portion "section 1" at an edge portion of the reflector or the diffusing sheet as shown in Figs. 1A, 1B and 4 for preventing bright line in the LCD device and the technology of Taniguchi is employed for teaching an optical member which capable of scattering light rays and made of

transparent plastic materials. Accordingly, with the teaching of Taniguchi, it would have been obvious that the modification of Mashino's backlight device with using a printing portion made of colorless ink containing a light scattering agent will improve the display quality by preventing a bright line as well as provide a uniform luminance distribution for the display.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thoi V. Duong whose telephone number is (703) 308-3171. The examiner can normally be reached on Monday-Friday from 8:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim, can be reached at (703) 305-3492.

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Art Unit: 2871

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Thoi Duong

11/10/2002


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SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2000